Practice Questions/Answers
Series 1

The following questions are presented by **Safety Results Ltd.** to assist the CRSP candidate to assess their own knowledge gaps. **There are NOT created to simulate the multiple choice questions you will see on the BCRSP Examination.**

"There are no hard questions if you know the answers." – Alan D. Quilley

Focused study on gaps in your current knowledge will move you towards your goal of not only being successful on the BCRSP Examination, but to make you a more valuable resource for your clients and employers. Being able to fully describe, in detail, a subject will help prepare you to answer multiply choice questions you will face in the BCRSP Examination.

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Alan D. Quilley CRSP

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Practice Questions/Answers
Series 1

Applied Safety Fundamentals (ASF)

1.1. Q: What is the Definition of "Safety"

1.2. Q: In many incident causation models there are two types of causes. What are they?

1.3. Q: In statistical analysis what is the "median"?

1.4. Q: The purpose of inspections is?

1.5. Q: Planning for inspections is an effective model that highlights five questions that should be answered when planning inspections. What are they?

DON'T LOOK – The Answers are on the next Page!

Applied Safety Fundamentals (ASF)

1.1. Q: What is the Definition of "Safety"

1.1. A: Safety: The control of recognized hazards to attain an acceptable level of risk. Relative protection from exposure to hazards.

1.2. Q: In many incident causation models there are two types of causes. What are they?

1.2. A: The two types of causes are:

1) the immediate causes which are really the hazards (the unsafe conditions/practices) that existed at the time of the incident and
2) the underlying or root causes that contributed to the existence of those immediate causes

1.3. Q: In statistical analysis what is the "median"?

1.3. A: The median is the middle value when numbers are arranged in order of magnitude. If there are an odd number of values, it is the middle one. If there is an even number of values, divide the two middle values by two. For this group of numbers (13, 65, 22, 43, 10) the median is 22 (10,13, **22,** 43, 65).

1.4. Q: The purpose of inspections is?

1.4. A: The purpose of inspections is to determine conditions that need to be corrected or improved in order to meet acceptable standards from a health and safety and operational viewpoint.

1.5. Q: Planning for inspections is an effective model that highlights five questions that should be answered when planning inspections. What are they?

1.5. A: Effective planned inspections answers these five questions:

1) What needs to be inspected?
2) What aspects of each item need to be examined?
3) What conditions need inspection?
4) How often should items be inspected?
5) Who will conduct the inspections?

ERGONOMICS (ERG)

1.6. Q: What is the Definition of "Ergonomics"

1.7. Q: Ergonomics is typically introduced in the workplace in response to one of three scenarios. What are they?

1.8. Q: Work related Ergonomic injuries occur when:

1.9. Q: What are MSDs?

1.10. Q: What is the role of the ligaments in the musculoskeletal system?

DON'T LOOK – The Answers are on the next Page!

ERGONOMICS (ERG)

1.6. Q: What is the Definition of "Ergonomics"

1.6. A: The Association of Canadian Ergonomists uses the following definition:

"Ergonomics (or human factors) is the scientific discipline concerned with interactions among humans and other elements of a system (e.g. the tools, equipment, products, tasks, organization, technology, and environment). The profession applies theory, principles, data, methods and analysis to design in order to optimize human well-being and overall system performance."

1.7. Q: Ergonomics is typically introduced in the workplace in response to one of three scenarios. What are they?

1.7. A: Ergonomics is typically introduced in the workplace in response to one of three scenarios:

1) something urgent (e.g. accident/injury, legislative compliance),
2) something old (e.g. rising costs of work injuries, production/quality problems), or
3) something new (e.g. redesign of product/production, building addition, purchasing new equipment, new hires).

1.8. Q: Work related Ergonomic injuries occur when:

1.8. A: the task demands exceed the capacity of the body tissues and structures.

1.9. Q: What are MSDs?

1.9. A: Musculoskeletal disorders (MSDs) are painful or debilitating injuries that involve muscles, tendons, ligaments, joints, nerves, blood vessels, cartilage, spinal discs, or related soft tissue. Other names given to this general category of injuries include: musculoskeletal injuries (MSIs), repetitive strain injuries (RSIs), occupational overuse syndrome (OOS), and cumulative trauma disorders (CTDs).

1.10. Q: What is the role of the ligaments in the musculoskeletal system?

1.10. The role of the ligaments in the musculoskeletal system are to connect bones to bones.

FIRE PREVENTION AND PROTECTION (FPP)

1.11. Q: What is the NFPA and what is their mission?

1.12. Q: Fires are classified into four general classes based upon the type of fuel that is consumed and the agents used in extinguishment. What are Class A fires and how are they extinguished?

1.13. Q: Fires are classified into four general classes based upon the type of fuel that is consumed and the agents used in extinguishment. What are Class B fires and how are they extinguished?

1.14. Q: There are two ways that heat sources ignite fire. What are they?

1.15. Q: Heat is needed to ignite a fire. Heat is transferred in through three different methods. What are they?

DON'T LOOK – The Answers are on the next Page!

FIRE PREVENTION AND PROTECTION (FPP)

1.11. Q: What is the NFPA and what is their mission?

1.11. A: The National Fire Protection Association (NFPA) is an international association that is based in the United States in Quincy Massachusetts, a suburb of Boston. The NFPA's mission is to prevent the loss of life and property from fire. The NFPA is a technical and an educational organization. Its primary technical activity is the production of *consensus standards.*

1.12. Q: Fires are classified into four general classes based upon the type of fuel that is consumed and the agents used in extinguishment. What are Class A fires and how are they extinguished?

1.12. A: Class A fires involve ordinary combustibles such as wood, paper, cloth, rubber and some plastics. Class A fires are usually extinguished with water because it can penetrate the fuel and absorb heat.

1.13. Q: Fires are classified into four general classes based upon the type of fuel that is consumed and the agents used in extinguishment. What are Class B fires and how are they extinguished?

1.13. A: Class B fires involve flammable and combustible liquids and gases such as gasoline, alcohol and propane. Common extinguishing agents for Class B fires are foam, carbon dioxide and dry chemicals that serve to smother the fire or reduce the oxygen concentration available in the burning zone.

1.14. Q: There are two ways that heat sources ignite fire. What are they?

1.14. A: There are two ways that heat sources ignite fire:

1) they provide a flame that directly ignites a fuel; or
2) they heat the fuel to its auto ignition temperature.

In both of these cases heat must be transferred to the fuel.

1.15. Q: Heat is needed to ignite a fire. Heat is transferred in through three different methods. What are they?

1.15. Heat is transferred in through three different methods: *conduction, convection,* and *radiation*.

Health and Wellness (HW)

1.16. Q: What is the Health promotion?

1.17. Q: For workplace wellness programs to reach their optimal impact, they must appeal to, and reach, as many workers as possible through three levels of effort. What are the three levels?

1.18. Q: Blood pressure is the force of blood pushing against the walls of arteries. There are two readings that make up a blood pressure reading: 1) *systolic pressure* and 2) *diastolic pressure*. A blood pressure reading uses these two numbers, the systolic and diastolic pressures. Explain the differences between the two readings.

1.19. Q: Health promotion occurs in many settings. Over the years, Canadian employers have become interested in providing health promotion programs in the workplace. The assumptions are that health promotion programs can result in what positive results?:

1.20. Q: What is the definition of Workplace Stress?

DON'T LOOK – The Answers are on the next Page!

Health and Wellness (HW)

1.16. Q: What is the Health promotion?

1.16. A: Health promotion is defined as the science and art of helping people change their lifestyle to move toward a state of optimal health.

1.17. Q: For workplace wellness programs to reach their optimal impact, they must appeal to, and reach, as many workers as possible through three levels of effort. What are the three levels?

1.17. A: The three levels are:

1) Primary prevention
2) Secondary prevention
3) Tertiary

1.18. Q: Blood pressure is the force of blood pushing against the walls of arteries. There are two readings that make up a blood pressure reading: 1) *systolic pressure* and 2) *diastolic pressure*. A blood pressure reading uses these two numbers, the systolic and diastolic pressures. Explain the differences between the two readings.

1.18. A: Blood pressure is the force of blood pushing against the walls of arteries. Each time the heart beats, it pumps out blood into the arteries. Blood pressure is highest when the heart contracts, pumping the blood through the arteries. This is called ***systolic pressure***. When the heart is at rest, between beats, blood pressure falls. This is the ***diastolic pressure***. A blood pressure reading uses these two numbers, the systolic and diastolic pressures.

1.19. Q: Health promotion occurs in many settings. Over the years, Canadian employers have become interested in providing health promotion programs in the workplace. The assumptions are that health promotion programs can result in what positive results?

1.19. A: The following positive results can be expected:

1) improved employee morale;
2) increased productivity;
3) decreased medical absenteeism rates and costs;
4) fewer disability claims and costs;
5) lower supplementary health care costs; and/or
6) reduced staff turnover.

1.20. Q: What is the definition of Workplace Stress?

1.20. A: Workplace stress is defined as “the harmful physical and emotional responses that can happen when there is a conflict between job demands on the employee and the amount of control an employee has over meeting those demands. In general, the combination of high job demands and a low degree of control over the work situation can lead to distress and disease.

HSE AUDITING (AUD)

1.21. Q: There are several reasons for conducting HSE Management Systems Audits. List at least 5 of them.

1.22. Q: List at least three advantages of using a Professional External Auditor.

1.23. Q: List at least three disadvantages of using an Internal Auditor.

1.24. Q: List at least five positive attributes of an Auditor.

1.25. Q: List the three major sources of information used by auditors

DON'T LOOK – The Answers are on the next Page!

HSE AUDITING (AUD)

1.21. Q: There are several reasons for conducting HSE Management Systems Audits. List at least 5 of them.

1.21. A: Common reasons are:

1)To establish a baseline from which to measure improvements
2) As a result of a serious incident
3) To comply with a government order
4) To demonstrate due diligence
5) To benchmark with other company branches
6) As part of a financial incentive program
7) To enable the company to bid on certain jobs
8) For public relations purposes

1.22. Q: List at least three advantages of using a Professional External Auditor.

1.22. A: The Advantages are:

1) No history with the company
2) No vested interest in the audit results
3) Familiar with basic OHS regulations and principles
4) Trained in audit technical skills (interviews, document review, etc.)

1.23. Q: List at least three disadvantages of using an Internal Auditor.

1.23. A: The disadvantages are:

1) May be subjective
2) Vested interest in the audit results
3) May be inexperienced in audit skills
4) Position may report to those audited
5) May be seen as a policeman

1.24. Q: List at least five positive attributes of an Auditor.

1.24. A: Some positive attributes of Auditors include:

1) Open-minded
2) Mature
3) Possess sound judgment
4) Have good analytical skills
5) Have tenacity
6) Ability to perceive situations realistically
7)Understand complex operations from a broad perspective

1.25. Q: List the three major sources of information used by auditors

1.25. A: Documentation, Interview, Observation

Law and Ethics (LE)

1.26. Q: Under the Canada Labour Code, interference at an accident scene is prohibited except in these circumstances:

1.27. Q: There are many factors the judge will consider in determining a deterrent penalty for convicted persons/corporations under OH&S legislation. List at least four.

1.28. Q: There are three elements for contractually Breach of Contract liability to be proven. List them.

1.29. Q: Under the Canada Labour Code Part II, an appeal of an Officer's direction does not go to a labour relations board, but goes to whom?

1.30. Q: There are issues that involve harm to fellow CRSPs as individuals, list at least four.

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Law and Ethics (LE)

1.26. Q: Under the Canada Labour Code interference, at an accident scene is prohibited except in these circumstances:

1.26. A: Interference at an accident scene is prohibited except to the extent necessary to
1) save a life, prevent injury or relieve human suffering in the vicinity;
2) maintain an essential public service; or
3) prevent unnecessary damage to or loss of property.

1.27. Q: There are many factors the judge will consider in determining a deterrent penalty for convicted persons/corporations under OH&S legislation. List at least four

1.27. A: Factors are:
1) past offences
2) size of the defendant (if a corporation)
3) knowledge
4) attitude
5) level of risk involved.

1.28. Q: There are three elements for contractually Breach of Contract liability to be proven. List them:

1.28. A: The three elements for contractual liability are:
1) The contract was broken;
2) There was a loss as a result of the breach; and
3) The loss was not too remote.

1.29. Q: Under the Canada Labour Code Part II an appeal of an Officer's direction does not go to a labour relations board, but goes to whom?

1.29. A: an Appeals Officer, appointed by the Minister

1.30. Q: There are issues that involve harm to fellow CRSPs as individuals. List at least four.

1.30. A: The issues are:
1) violation of other's intellectual property rights
2) failure to give credit for other's contributions
3) denigrating the ability/integrity of a fellow CRSP in order to win clients
4) "poaching clients"
5) not being forthcoming with needed information

MANAGEMENT SYSTEMS (MS)

1.31. Q: What is an Organization?

1.32. Q: What is the Productivity Equation?

1.33. Q: Generally what two principles guide corporate sustainability?

1.34. Q: In Step 3 of Problem Solving the evaluation of alternative solutions is based on what five criteria?

1.35. Q: There are several Formal Dispute Resolution Processes. List at least five.

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MANAGEMENT SYSTEMS (MS)

1.31. Q: What is an Organization?

1.31. A: An organization is a group of people working together to achieve a common purpose.

1.32. Q: What is the Productivity Equation?

1.32. A: Productivity = Quantity + Quality – Resources (P = Q + Q – R)

1.33. Q: Generally what two principles guide corporate sustainability?

1.33. A: The two principles are:

1) Sustainable business practices are critical to the creation of long-term shareholder value in an increasingly resource-constrained world

2) Sustainability factors represent opportunities and risks that competitive companies must address

1.34. Q: In Step 3 of Problem Solving the evaluation of alternative solutions is based on what five criteria?

1.34. A: The five criteria are:

1) Benefits
2) Costs
3) Timeliness
4) Acceptability
5) Ethical Soundness

1.35. Q: There are several Formal Dispute Resolution Processes. List at least five.

1.35. A: Some formal types are:

1) Consultation
2) Negotiation
3) Third-party Negotiations
4) Facilitation
5) Mediation involves
6) Non-binding arbitration
7) Arbitration

OCCUPATIONAL HYGIENE (OH)

1.36. Q: The information used for establishing occupational exposure limits comes mostly from the following these three areas.

1.37. Q: How does the ACGIH describe TLVs?

1.38. Q: The TLV-TWA is defined as?

1.39. Q: What is a TLV Skin Notation?

1.40. Q: Air sampling is used for what three reasons, List them.

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OCCUPATIONAL HYGIENE (OH)

1.36. Q: The information used for establishing occupational exposure limits comes mostly from the following these three areas.

1.36. A: Exposure limits are based on information from these three areas

1) Animal studies
2) Human experience
3)Workplace experience

1.37. Q: How does the ACGIH describe TLVs?

1.37. A: TLVs refer to airborne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed day after day without adverse health effects.

1.38. Q: The TLV-TWA is defined as?

1.38. A: The TLV-TWA is defined as:
"The time weighted average concentration for a conventional eight hour work day and a 40 hour work week to which it is believed that nearly all workers may be repeatedly exposed day after day, for a working lifetime, without adverse effect."

1.39. Q: What is a TLV Skin Notation?

1.39. A: The skin notation indicates the chemical can be absorbed through the skin and that appropriate precautions must be taken to prevent this.

1.40. Q: Air sampling is used for what three reasons. List them.

1.40. A: The three reasons are:

1) To design or evaluate engineering controls
2) To establish and document compliance with government regulations
3) To determine employee exposure

RISK MANAGEMENT (RM)

1.41. Q: Most workplace accident and illness insurance programs (e.g. Workers' Compensation) cover only a limited range of costs related to workplace accidents and illnesses. List at least three which are included.

1.42. Q: Workplace compensation and insurance programs typically do not cover indirect costs, including many of the following. List at least six.

1.43. Q: What are the three tasks which constitute the central activities in any risk management framework?

1.44. Q: What is Risk Estimation?

1.45. Q: Describe Risk Evaluation.

DON'T LOOK – The Answers are on the next Page!

RISK MANAGEMENT (RM)

1.41. Q: Most workplace accident and illness insurance programs (e.g. Workers' Compensation) cover only a limited range of costs related to workplace accidents and illnesses. List at least three which are included.

1.41 A: Included are usually:

1) direct costs associated with injuries and ill health of their employees (through workers' compensation insurance coverage)
2) insurance for vehicles
3) third-party insurance (in some cases)
4) insurance of building structures in most cases

1.42. Q: Workplace compensation and insurance programs typically do not cover indirect costs, including many of the following. List at least six.

1.42. A: Typically NOT covered are:

1) sick-pay (for illnesses not directly attributable to workplace hazards),
2) damage or loss of product and raw materials,
3) repairs to plant and equipment
4) overtime working and temporary labour,
5) production delays,
6) investigation time,
7) fines

1.43. Q: What are the three tasks which constitute the central activities in any risk management framework?

1.43. A: The three tasks are:

1) risk estimation,
2) risk evaluation,
3) risk control

1.44. Q: What is Risk Estimation?

1.44. A: Risk estimation is a process that attempts to quantify the amount of risk pertaining to a given health hazard, using scientific information on the nature of the hazard and analytical methods to calculate the estimated degree of risk in the exposed population.

1.45. Q: Describe Risk Evaluation.

1.45. A: Risk evaluation addresses less quantifiable non-scientific aspects of the risk problem—the economic, social, and legal factors. Since economic analysis is to some extent quantifiable in terms of the expected monetary costs and benefits of a risk control program, risk estimation and economic analysis activities are sometimes combined under the label of 'risk analysis' or 'quantitative risk assessment.